

CSS PART 1

Module 3

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INTRO TO CSS

WHAT IS CSS?

CSS

Cascading style sheets

CSS describes the visual style and how the content written in HTML looks

CSS has many properties that developers use to format the content: font, text, spacing, layout etc.

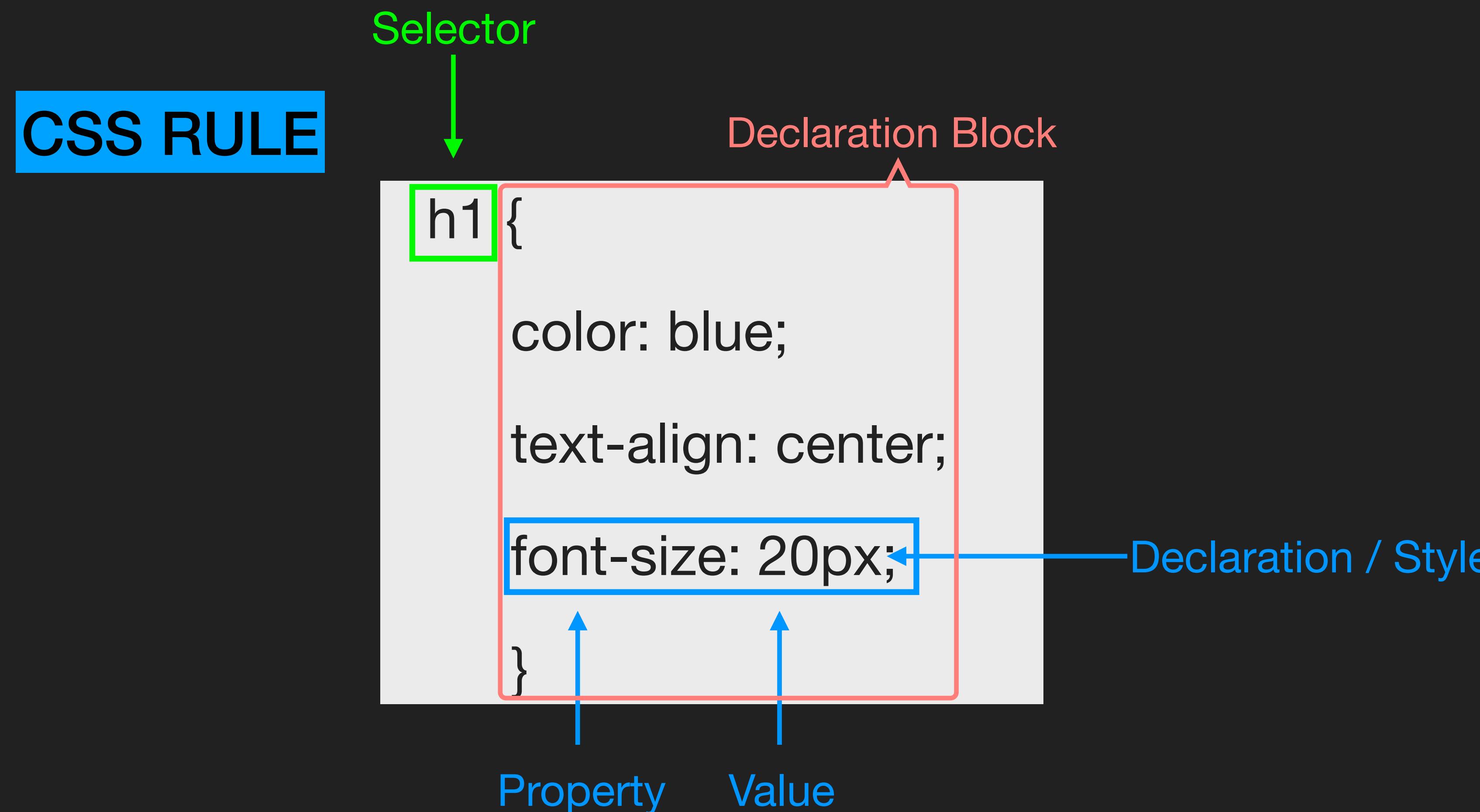


The screenshot shows the Wikipedia homepage. On the left, there's a sidebar with links like 'Main page', 'Contents', and 'Help'. The main content area features a 'From today's featured article' box about the song 'No' by Meghan Trainor. It includes a photo of Ricky Reed, the producer, and a brief description. To the right, there's an 'In the news' box listing recent events, such as the World Health Organization declaring the monkeypox outbreak a Public Health Emergency of International Concern, and the declaration of extinction for the Chinese paddlefish.



The screenshot shows the TailwindCSS website. At the top, there's a navigation bar with links for 'Docs', 'Components', and 'Blog'. The main headline reads 'Rapidly build modern websites without ever leaving your HTML.' Below the headline, there's a description of TailwindCSS as a utility-first CSS framework. A 'Get started' button and a search bar are at the bottom.

HOW WE STYLE ELEMENTS



INLINE CSS

INLINE CSS EXAMPLE

```
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
  </head>
  <body>
    <h1 style="color: blue; text-align: center; font-size: 20px">Heading</h1>

    <p>
      Lorem ipsum dolor sit amet consectetur adipisicing elit. Quam eos aut obcaecati veniam dolor, vitae, expedita veritatis assumenda velit fugit quaerat consectetur quos officia, quidem dolores totam omnis id nostrum!
    </p>
  </body>
</html>
```



This is just an example, you should never do this in production!

INTERNAL CSS

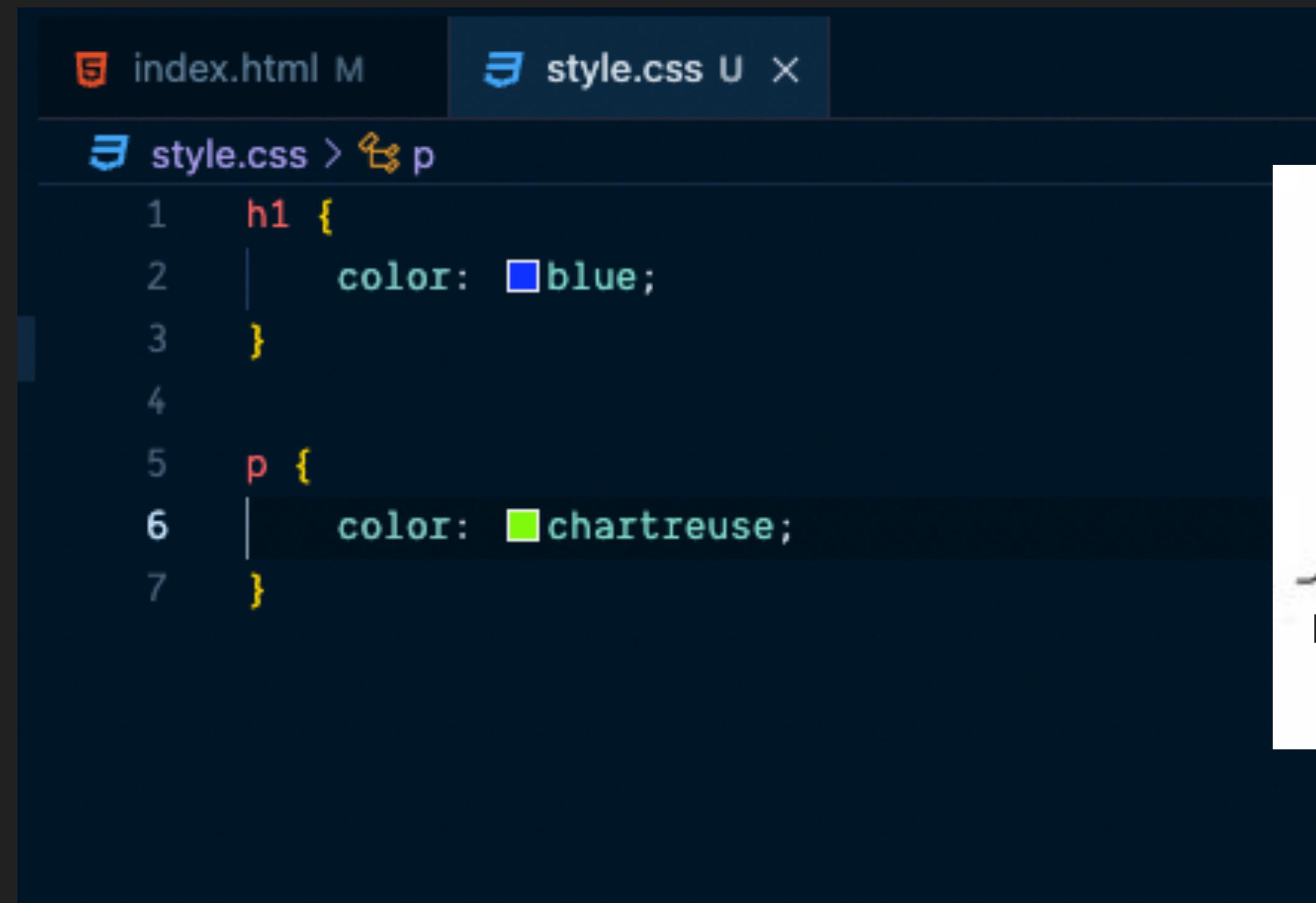
INTERNAL CSS EXAMPLE

```
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
    <!-- internal style example -->
    <style>
      p {
        color: #chartreuse;
      }
    </style>
    <!-- internal style example -->
```

This is also not considered best practice, I'm just showing you
incase you see it in the wild.

EXTERNAL CSS

EXTERNAL CSS EXAMPLE



The image shows a dark-themed code editor interface. At the top, there are two tabs: "index.html M" and "style.css U X". The "style.css" tab is active, indicated by a blue background. Below the tabs, the code editor displays two CSS files:

```
index.html M
style.css U X

style.css > p

1 h1 {
2   color: blue;
3 }
4
5 p {
6   color: chartreuse;
7 }
```

On the right side of the slide, there is a white box containing two cartoon illustrations of faces. The first face is a bald man with glasses and a wide-open mouth, looking shocked. The second face is a man with a full beard and mustache, also with a wide-open mouth. Below the first face, the text "My HTML file has 5000 lines!" is written. To the right of the second face, a blue button-like shape contains the text "External CSS".

The correct way to apply style to HTML, is by using an external file. We have to add a link to our CSS file inside our HTML. This is also considered best practice to separate concerns, and prevent bloat within our HTML file.

STYLING TEXT

STYLING TEXT EXAMPLE

```
8
9  /* Styling text example */
10 h2 {
11   font-size: 40px;
12   font-family: sans-serif;
13   text-transform: uppercase;
14   font-style: |;
```

```
  italic
  normal
  oblique
  calc()
  inherit
  initial
  unset
  var()
```

Let's look at some text properties:
https://developer.mozilla.org/en-US/docs/Learn/CSS/Styling_text/Fundamentals

COMBINING SELECTORS

COMBINING SELECTORS

```
19  
20  h1, h2, h3, h4 {  
21    font-family: sans-serif;  
22    text-transform: uppercase;  
23    color: cornflowerblue;  
24 }
```

CLASS ID SELECTORS

CLASS & ID SELECTORS

```
body h1,  
h2 {  
    font-size: 24px;  
}  
#author1 {  
    font-style: italic;  
    font-size: 18px;  
    color: #3b82f6;  
}  
  
.author2 {  
    font-style: italic;  
    font-size: 18px;  
    color: #6366f1;  
}
```

For ID names we can only use them once, and they must be unique.

Class can apply to multiple elements.

ID is also special as you can use a special URL to link to an element,

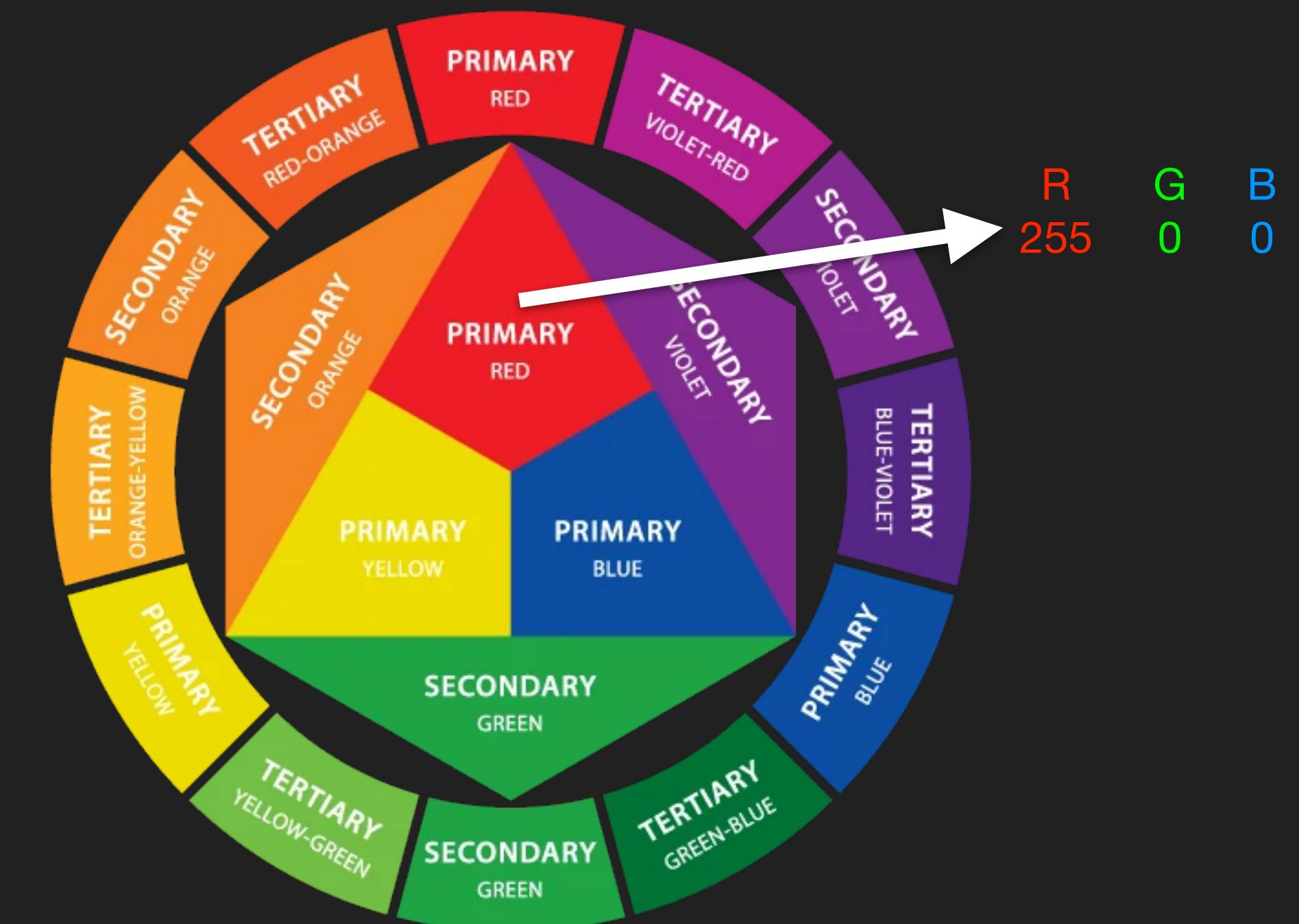
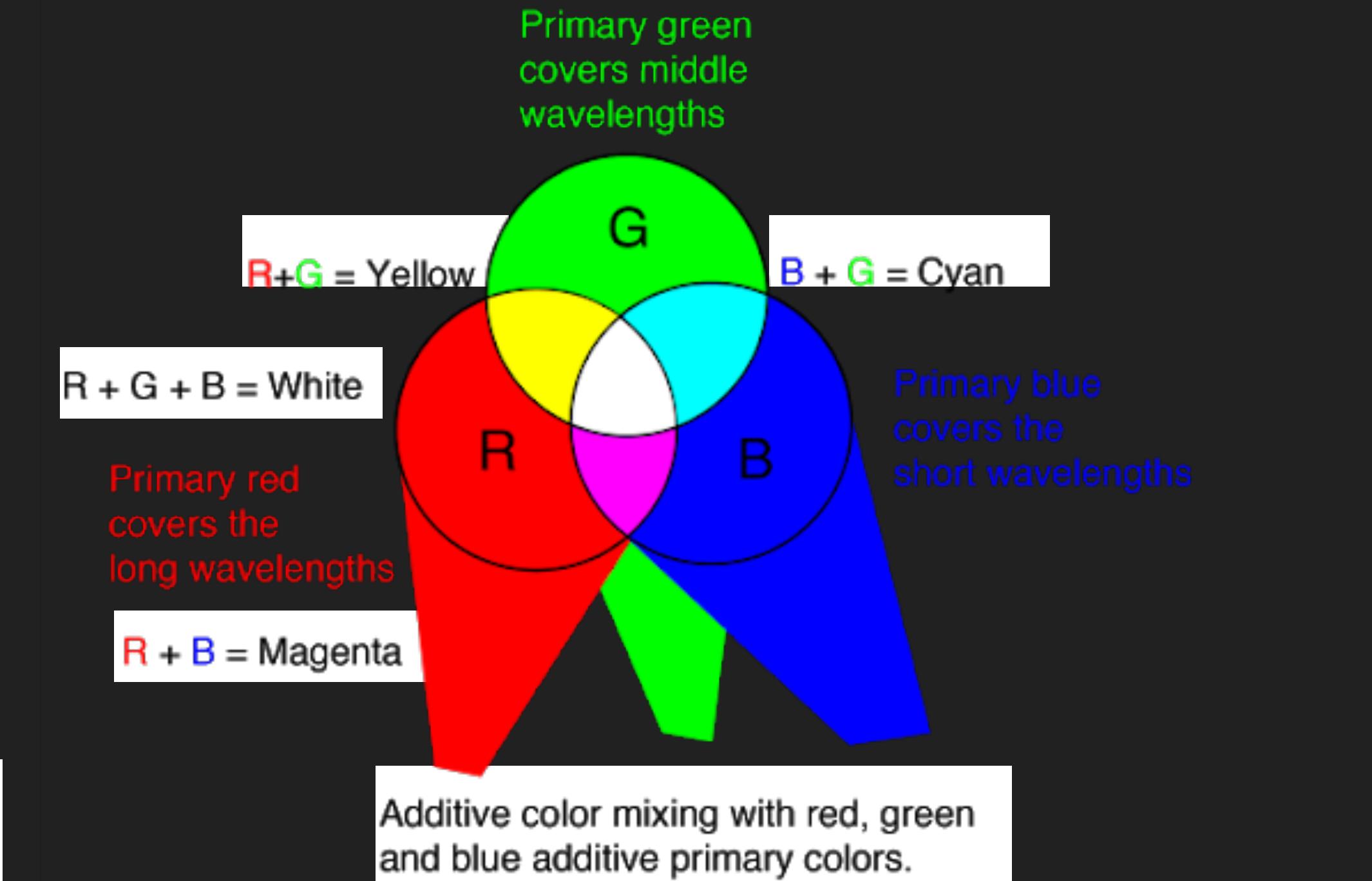
And ID can be used with JavaScript, so keep that in mind.

WORKING WITH COLOURS

RGB Model: Every color can be represented by A combination of **RED**, **GREEN** and **BLUE**

THE RGB MODEL

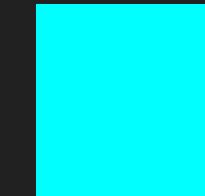
Each of the 3 base colours can take a value between 0 and 255, which leads to 16.8 million different colours.



RGB / RGBA NOTATION

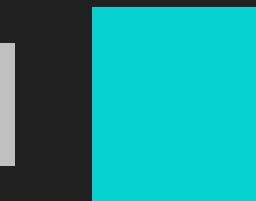
Regular RGB model

`rgb(0, 255, 255)`



RGB with transparency (“alpha”)

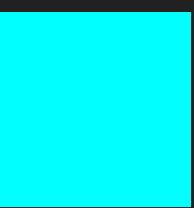
`rgb(0, 255, 255, 0.3)`



HEXADECIMAL NOTATION

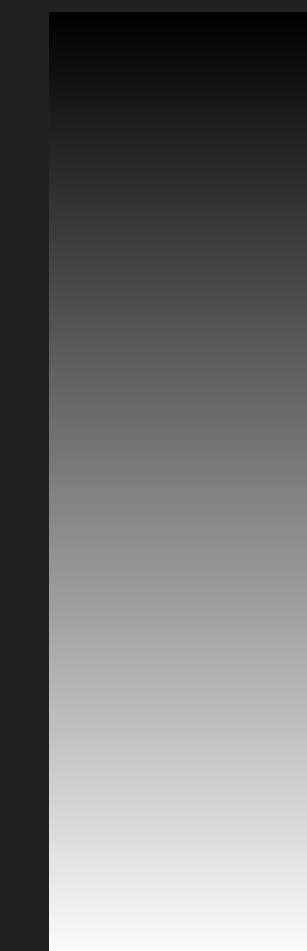
Instead of using a scale from 0 to 255,
We use from 0 to ff (255 in hexadecimal)

`#00FFFF`



GREY COLOR

When all colours are
The same in each
Channel, we get a
Grey color

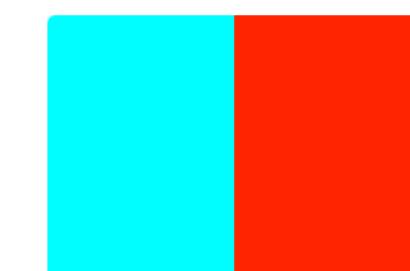


There are 256
pure grey colors
to choose from

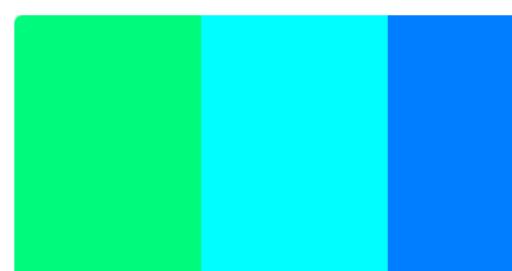
COLOR SCHEMES WITH #00ffff

Practice in the source code!

Color Schemes with #00ffff



Complementary Color



Analogous Color



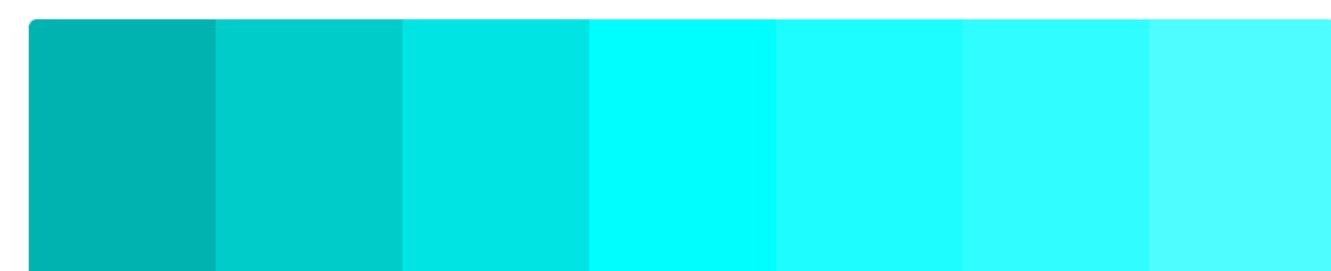
Split Complementary Color



Triadic Color



Tetradic Color



Monochromatic Color

We normally use hexadecimal
When working with colors in CSS

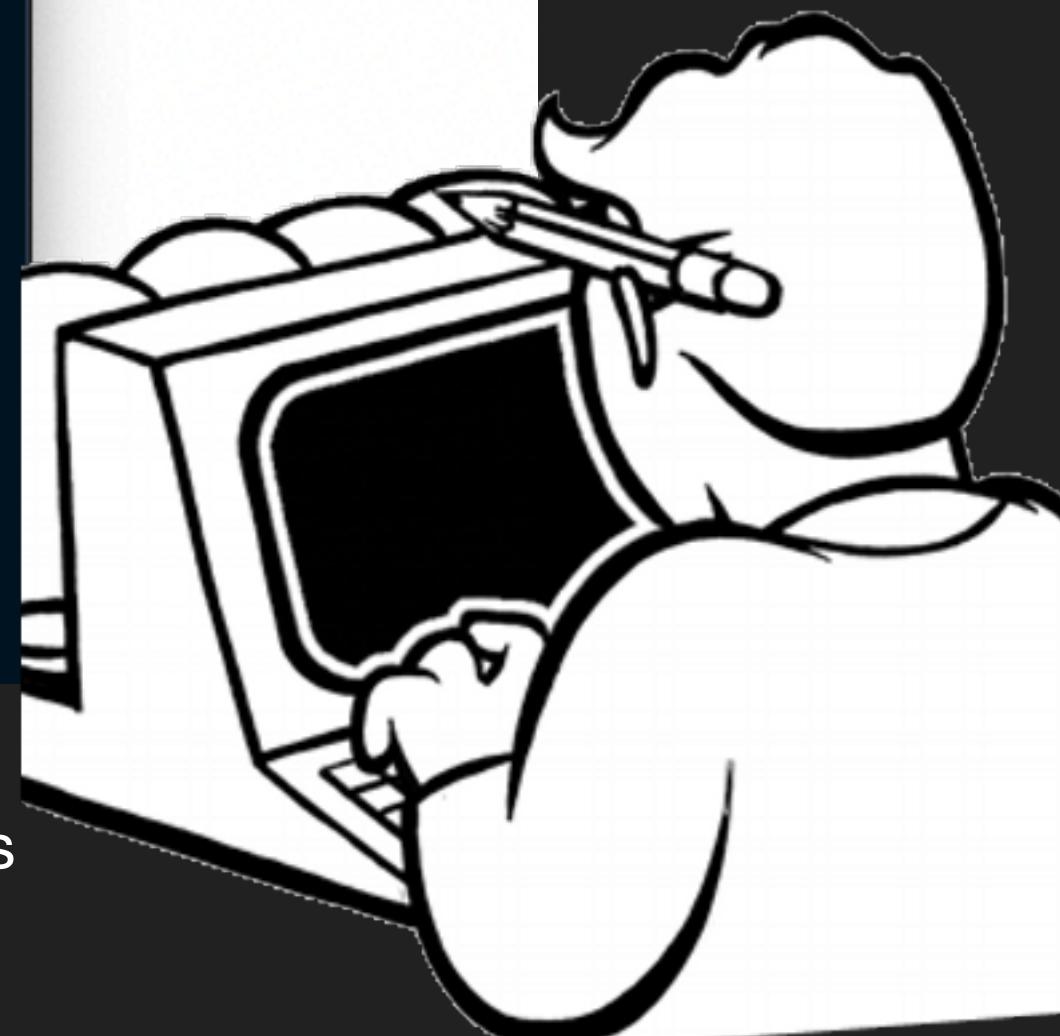


PSEUDO CLASSES

PSEUDO-CLASSES

```
1  <!DOCTYPE html>
2  <html lang="en">
3  | <head>
4  | | <meta charset="UTF-8" />
5  | | <meta http-equiv="X-UA-Compatible" content="IE=edge" />
6  | | <meta name="viewport" content="width=device-width, initial-scale=1.
7  | | 0" />
8  | | <title>Document</title>
9  | | <style>
10 | | | li:first-child {
11 | | | | color: red;
12 | | | }
13 | | </style>
14 | </head>
15 | <body>
16 | | <ol>
17 | | | <li>one</li>
18 | | | <li>two</li>
19 | | | <li>three</li>
20 | | </ol>
21 | | <ul>
22 | | | <li>one</li>
23 | | | <li>two</li>
24 | | | <li>three</li>
25 | | </ul>
26 | </body>
27 </html>
```

1. one
 2. two
 3. three
- one
 - two
 - three



STYLING HYPERLINKS

STYLING HYPERLINKS

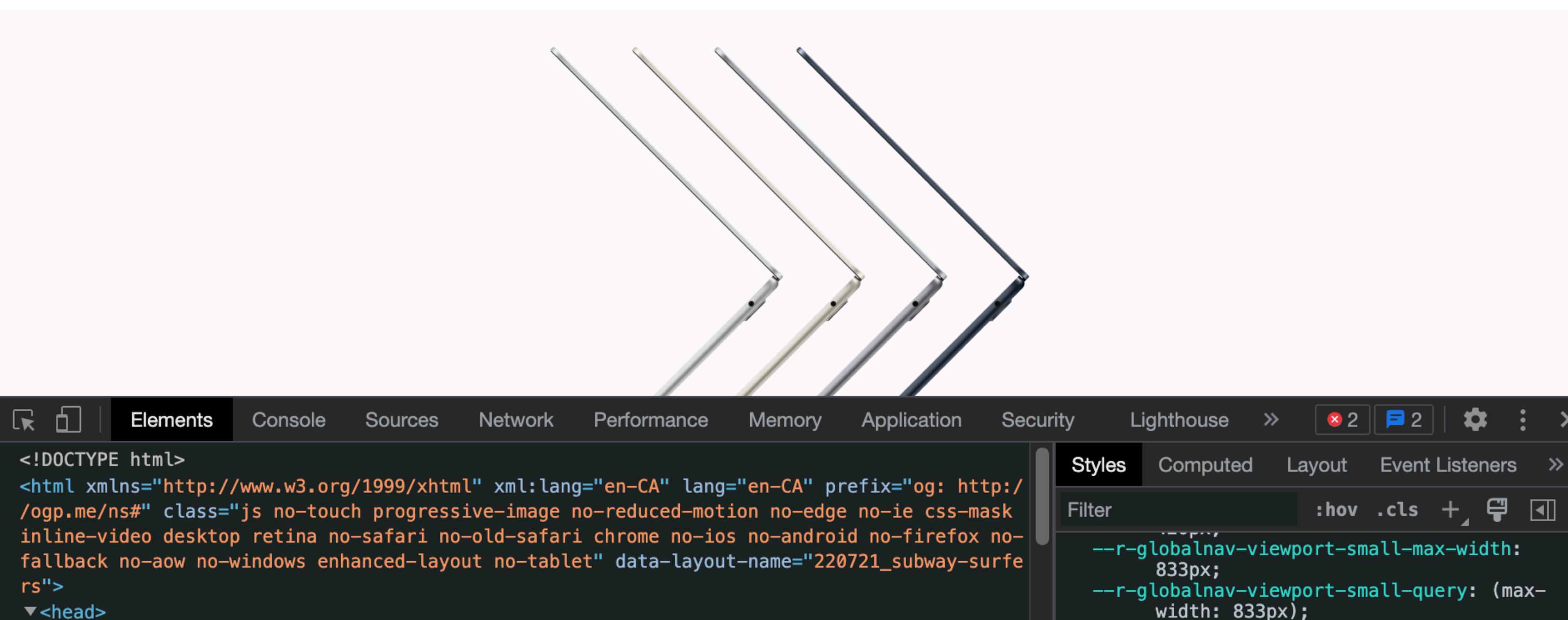
```
a:visited {  
    color: #2563eb;  
}  
  
a:focus {  
    border-bottom: 1px solid;  
    background: #6366f1;  
}  
  
a:hover {  
    border-bottom: 1px solid;  
    background: #60a5fa;  
}  
  
a:active {  
    background: #6366f1;  
    color: #1f2937;  
}
```

ACTIVITY

https://developer.mozilla.org/en-US/docs/Learn/CSS/Styling_text/Styling_links

CHROME DEV TOOLS

DEV TOOLS



```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en-CA" lang="en-CA" prefix="og: http://og.me/ns#" class="js no-touch progressive-image no-reduced-motion no-edge no-ie css-mask inline-video desktop retina no-safari no-old-safari chrome no-ios no-android no-firefox no-fallback no-aow no-windows enhanced-layout no-tablet" data-layout-name="220721_subway-surfers">
  <head>
    <meta charset="utf-8">
    <link rel="canonical" href="https://www.apple.com/ca/">
    <link rel="alternate" href="https://www.apple.com/" hreflang="en-US">
    <link rel="alternate" href="https://www.apple.com/ae-ar/" hreflang="ar-AE">
    <link rel="alternate" href="https://www.apple.com/ae/" hreflang="en-AE">
    <link rel="alternate" href="https://www.apple.com/am/" hreflang="en-AM">
    <link rel="alternate" href="https://www.apple.com/at/" hreflang="de-AT">
    <link rel="alternate" href="https://www.apple.com/au/" hreflang="en-AU">
    <link rel="alternate" href="https://www.apple.com/az/" hreflang="en-AZ">
    <link rel="alternate" href="https://www.apple.com/befr/" hreflang="fr-BE">
    <link rel="alternate" href="https://www.apple.com/benl/" hreflang="nl-BE">
    <link rel="alternate" href="https://www.apple.com/bg/" hreflang="bg-BG">
    <link rel="alternate" href="https://www.apple.com/bh-ar/" hreflang="ar-BH">
    <link rel="alternate" href="https://www.apple.com/bh/" hreflang="en-BH">
    <link rel="alternate" href="https://www.apple.com/br/" hreflang="pt-BR">
    <link rel="alternate" href="https://www.apple.com/bw/" hreflang="en-BW">
    <link rel="alternate" href="https://www.apple.com/by/" hreflang="en-BY">
    <link rel="alternate" href="https://www.apple.com/ca/" hreflang="en-CA">
    <link rel="alternate" href="https://www.apple.com/ca/fr/" hreflang="fr-CA">
    <link rel="alternate" href="https://www.apple.com/cf/" hreflang="fr-CF">
    <link rel="alternate" href="https://www.apple.com/chde/" hreflang="de-CH">
```



BOX MODEL

THE CSS BOX MODEL

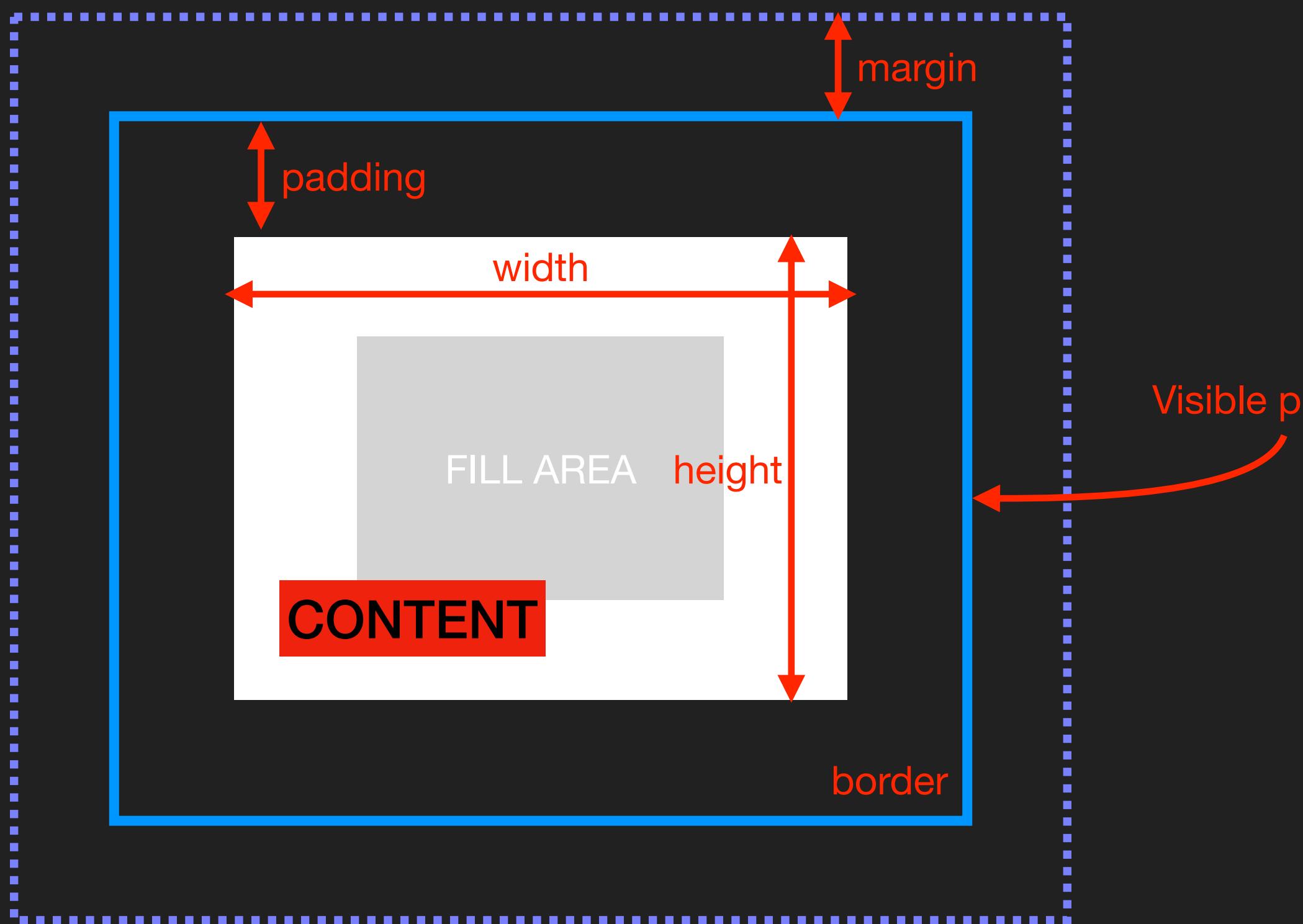
Content : Text, images, etc.

Border : A line around the element,
Still inside the element

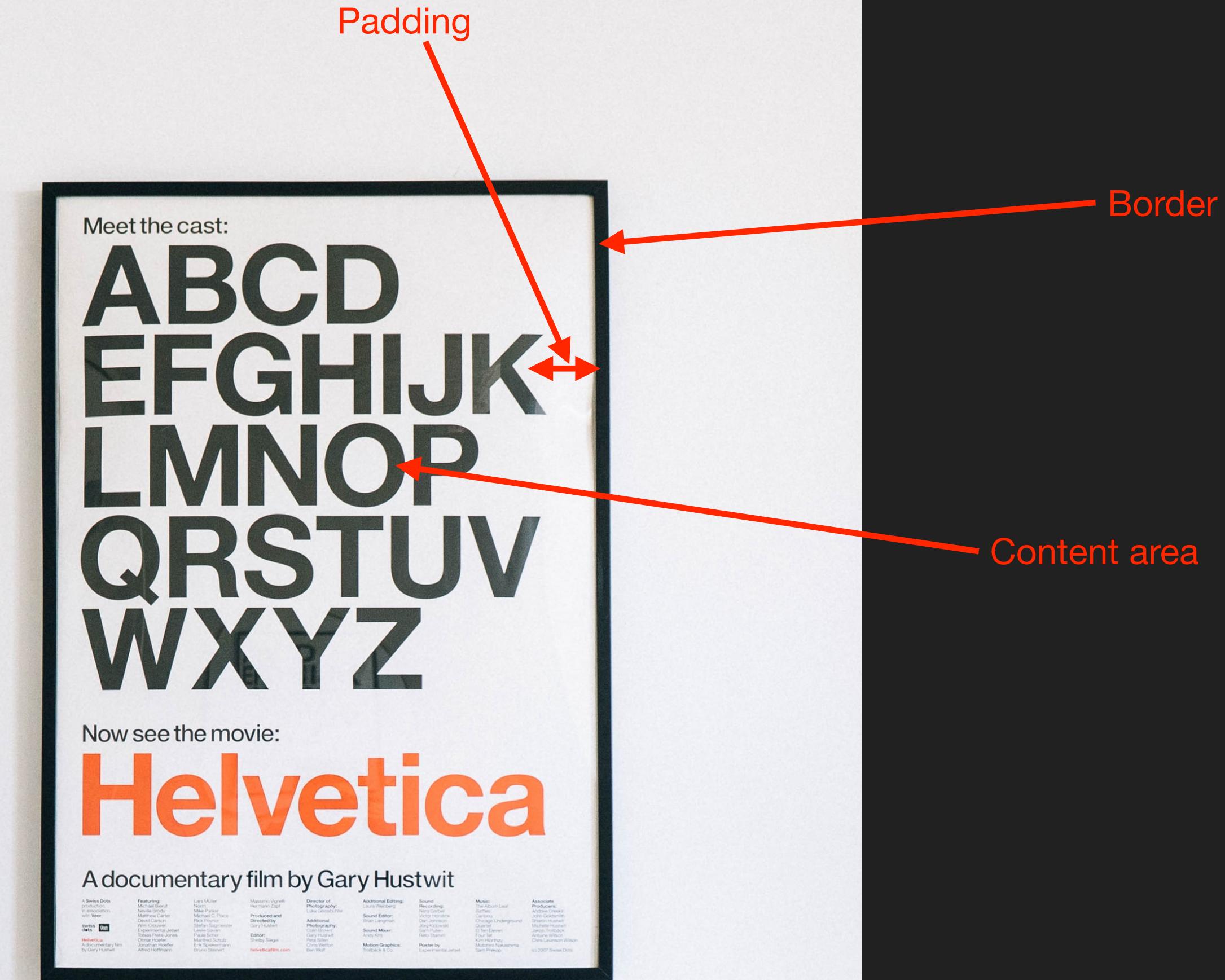
Padding: Invisible space around the
content, inside the element

Margin: Space outside of the
element,
between elements

Fill area: Area that gets filled with
background color or a background
image



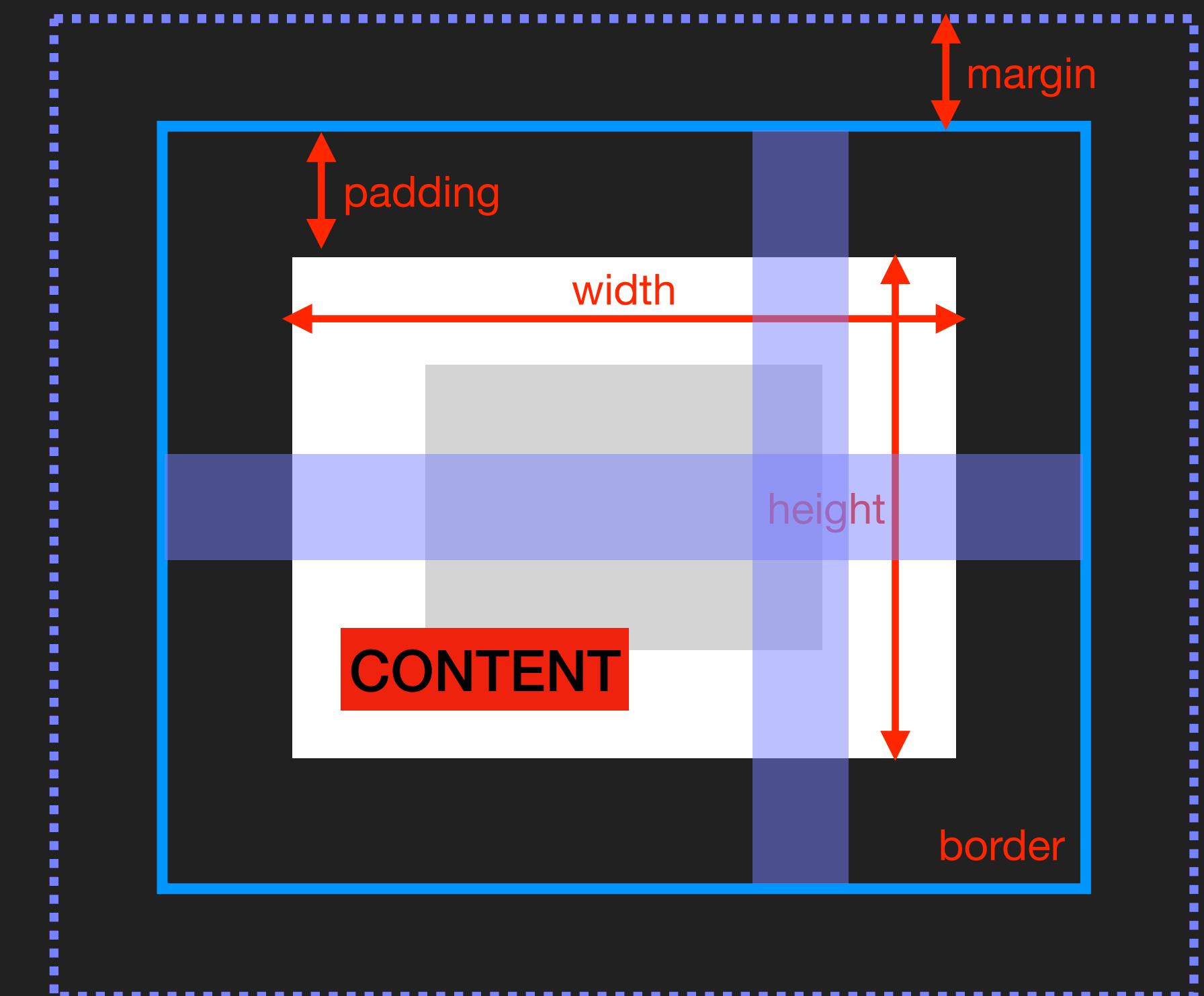
The box model defines how content is displayed on a webpage, and how they are sized



ELEMENT HEIGHT AND WIDTH CALCULATION

Final element width = left border + left padding + width + right padding + right border

Final element height = top border + top padding + height + bottom padding + bottom border



We can specify all these values with CSS

This example is the default behaviour, but we can change it

MARGINS

MARGIN

- margin
 - margin
 - margin
 - margin
1. margin
 2. margin
 3. margin
 4. margin

End of list

The screenshot shows the Mozilla Developer Network page for CSS Margin. It includes a navigation bar with tabs like Elements, Console, Sources, Network, Timelines, Storage, Graphics, Layers, Audit, and a search bar. Below the navigation is a breadcrumb trail: E > E body > E ol > E li. There are also icons for copy, paste, and refresh.

The main content area displays the DOM structure:

```
<!DOCTYPE html>
<html lang="en">
  <head>...</head>
  <body>
    <h1>Margins</h1>
    <ul>...</ul>
    <ol>
      <li>margin</li>
      <li>margin</li>
      <li>margin</li>
      <li>margin</li> = $0
    </ol>
    <p>End of list</p>
    <!-- Code injected by live-server -->
    <script type="text/javascript">...</script>
  </body>
</html>
```

The style inspector on the right shows the computed styles for the selected element (li). It includes:

- Style Attribute: margin-bottom: 10px;
- User Agent Style Sheet: display: list-item; text-align: match-parent;
- Pseudo-Element ::marker: unicode-bidi: isolate; font-variant-numeric: tabular-nums; white-space: pre; text-transform: none;
- Inherited From ol: list-style-type: decimal;
- Inherited From html: color: black; font-size: 20px; height: 23px; list-style-type: decimal; margin-bottom: 10px; text-align: left;

The Box Model diagram illustrates the layout of the element. It shows a green content area (889 x 23 pixels) surrounded by a padding layer (10 pixels), which is further surrounded by a border layer. The entire element is positioned relative to its parent container.

At the bottom of the page is a link to the source code: <https://developer.mozilla.org/en-US/docs/Web/CSS/margin>.

PADDING

PADDING



A screenshot of a web browser displaying the Mozilla Developer Network article on CSS padding. The browser's developer tools are open, specifically the Elements and Computed tabs.

Elements Tab: Shows the DOM tree with the `header` element selected. The tree includes the DOCTYPE, `html`, `head`, `body`, `header`, and a script tag.

Computed Tab:

- Style Attribute:** `<header>...</header> = $0`
- header:** `background-color: #f7f7f7; padding: 20px; padding-left: 40px; padding-right: 40px;`
- address, article, aside, div, footer, header, hgroup, layer, main, nav, section:** `display: block;`
- Inherited From html:** `color: text;`

Box Model Diagram: A visual representation of the box model for the `header` element. It shows a green rectangular area representing the content, surrounded by a dashed blue border for padding (20px), a solid orange border for the border (40px), and a large brown rectangle for the margin (864x113.88).

Properties Tab:

- `background-color: #rgb(247, 247, 247);`
- `color: #rgb(0, 0, 0);`
- `display: block;`
- `height: 113.875px;`
- `padding-bottom: 20px;`
- `padding-left: 40px;`
- `padding-right: 40px;`
- `padding-top: 20px;`
- `width: 864px;`

Page Bottom:

<https://developer.mozilla.org/en-US/docs/Web/CSS/padding> Ungrouped

Review padding source code

ADDING DIMENSIONS

DIMENSIONS

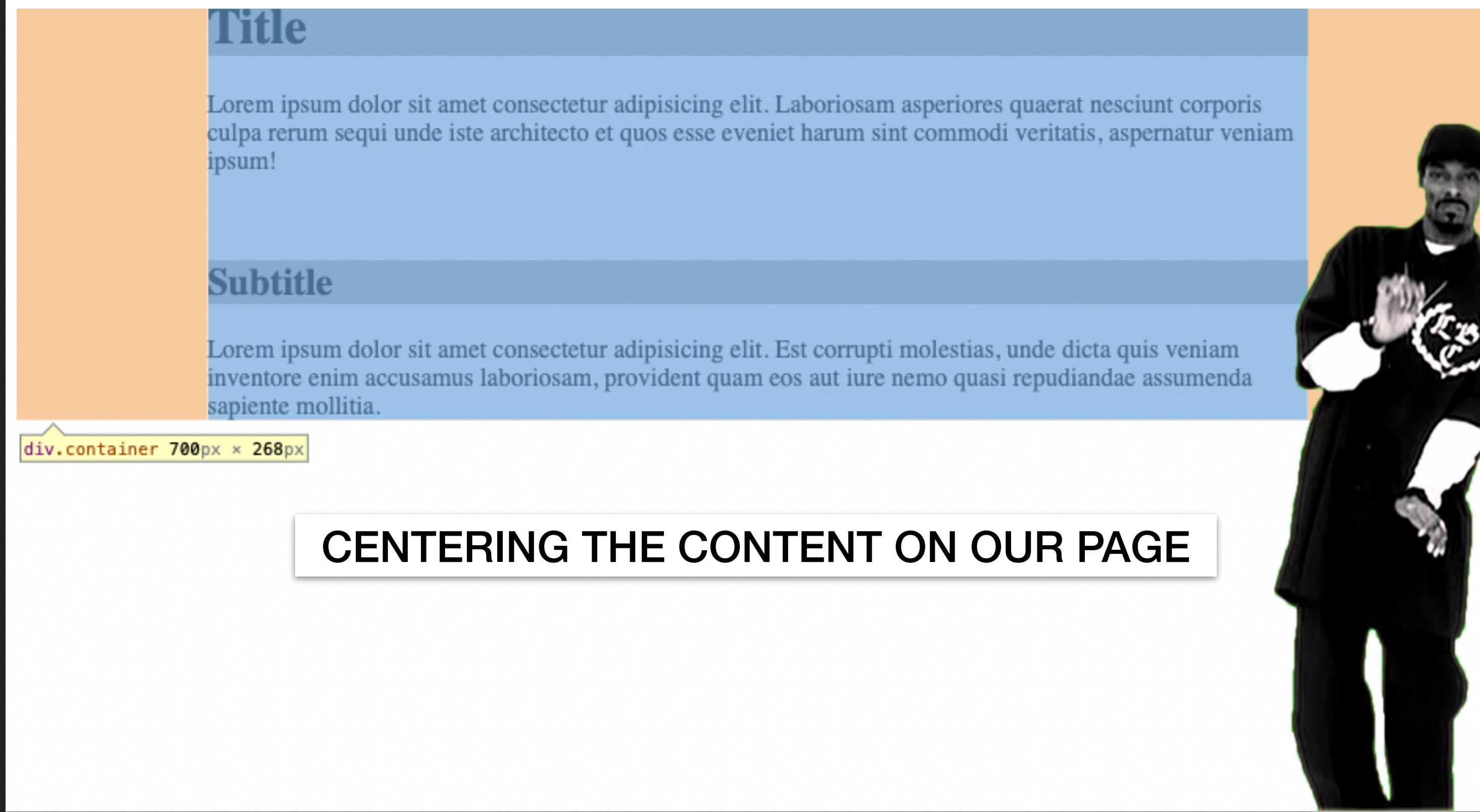
```
<style>
    body {
        margin: auto;
        padding: 50px;
        /* text-align: center; */
    }
    div {
        display: flex;
        justify-content: center;
    }
    h1 {
        background-color: #7f7f7faa;
        text-align: center;
        /* width: 200px; */
    }
</style>
```

Practice in the source code

https://www.w3schools.com/css/css_dimension.asp

CONTAINERS

CONTAINERS



div.container 700px x 268px

CENTERING THE CONTENT ON OUR PAGE

The browser developer tools are open, showing the Element, Computed, and Box Model tabs for the container element. The Element tab shows the HTML structure with the container div highlighted. The Computed tab displays the CSS properties for the container, including width: 700px; margin-left: auto; margin-right: auto;. The Box Model tab shows a diagram of the box model with a central content area of 700x268.25, surrounded by padding of ~121.5px on each side, and margins of ~121.5px on each side.

Check the container source code file

TYPES OF BOXES

BLOCK LEVEL ELEMENTS

Elements are formatted visually as blocks

Elements occupy 100% of a parents element's width, no matter the content

Elements are stacked vertically by default, one after another

The box-model applies

The diagram shows two block-level elements: 'Title' and 'Subtitle'. Each element is represented by a white rectangular box with a thick red border. The 'Title' box contains placeholder text: 'Lorem ipsum dolor sit amet consectetur adipisicing elit. Laboriosam asperiores quaerat nesciunt corporis culpa rerum sequi unde iste architecto et quos esse eveniet harum sint commodi veritatis, aspernatur veniam ipsum!'. The 'Subtitle' box contains placeholder text: 'Lorem ipsum dolor sit amet consectetur adipisicing elit. Est corrupti molestias, unde dicta quis veniam inventore enim accusamus laboriosam, provident quam eos aut iure nemo quasi repudiandae assumenda sapiente mollitia.'

https://developer.mozilla.org/en-US/docs/Web/HTML/Block-level_elements

Default elements: body, main, header, footer, section, nav, aside, div, h1-h6, p, ul, ol, li,
With CSS: display: block;

INLINE ELEMENTS

Occupies only the space necessary for its content

Causes no line-breaks after or before the element

Box model applies in a different way: heights and widths don't apply

Paddings and margins are applied only horizontally (left and right)

Title

Title Lorem ipsum dolor sit amet consectetur adipisicing elit. Laboriosam asperiores quaerat nesciunt corporis culpa rerum sequi unde iste architecto et quos esse eveniet harum sint commodi veritatis, aspernatur veniam ipsum!

Subtitle

Subtitle Lorem ipsum dolor sit amet consectetur adipisicing elit. Est corrupti molestias, unde dicta quis veniam inventore enim accusamus laboriosam, provident quam eos aut iure nemo quasi repudiandae assumenda sapiente mollitia.

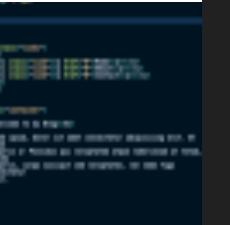
https://developer.mozilla.org/en-US/docs/Web/HTML/Inline_elements

Default elements: a, img, strong, em, button
With CSS: display: inline;

Inline elements example

```
9   .container {  
10    margin: 0 auto;  
11    width: 800px;  
12  }  
13  nav {  
14    border-bottom: 1px solid #9ca3af;  
15  }  
16  .links ol {  
17    list-style-type: none;  
18    padding-left: 0;  
19  }  
20  .link {  
21    display: inline-block;  
22  }  
23  .link a {  
24    text-decoration: none;  
25    font-family: sans-serif;  
26    font-size: 24px;  
27    color: #3b82f6;  
28    padding: 0 4px;  
29  }  
30  .link a::after {  
31    text-decoration: none;  
32    display: inline-block;  
33    color: #000;  
34    font-size: 80%;  
35    font-weight: bold;  
36    padding: 0 3px;  
37  }
```

Activity



<https://developer.mozilla.org/en-US/docs/Web/HTML/Element/nav>

Check the source code for Activity files

Next Class

ABSOLUTE POSITIONING